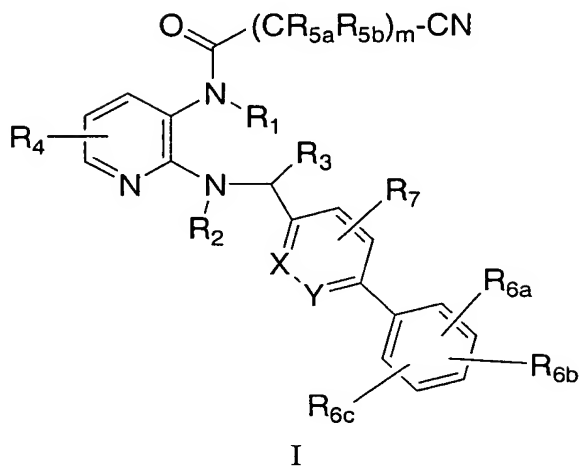


WHAT IS CLAIMED IS:

1. A compound of formula I



wherein

m is 1, 2, 3 or 4;

10 X and Y are each CH, or one is CH and the other is N;

R₁ and R₂ are independently selected from

- (1) hydrogen and
- (2) C₁₋₄ alkyl;

R₃ is selected from

- 15 (1) hydrogen, and
- (2) C₁₋₄ alkyl optionally substituted with 1 to 4 groups selected from halogen, CO₂R^a, OR^a, COR^a and cyano;

R₄ is selected from

- 20 (1) hydrogen,
- (2) nitro,
- (3) halogen,
- (4) (CH₂)_nOR^a,
- (5) (CH₂)_nCO₂R^a,
- (6) (CH₂)_nCN,
- 25 (7) (CH₂)_nNR^bR^c,
- (8) (CH₂)_nNHC(O)CH₂CN,

(9) CONR^bR^c , and

(10) C_{1-4} alkyl;

R_{5a} and R_{5b} are independently hydrogen or methyl, or R_{5a} and R_{5b} together complete a C_{3-4} cycloalkyl ring,

5 R_{6a} is selected from

(1) C_{1-8} alkyl, optionally substituted with 1 to 5 groups

independently selected from halogen, nitro, cyano, COR^a , SO_2R^d , CO_2R^a , NR^bR^c , $\text{NR}^b\text{C}(\text{O})\text{R}^a$, NHSO_2R^d , OR^a , $\text{OC}(\text{O})\text{R}^a$, CONR^bR^c ,

(2) C_{3-8} cycloalkyl,

10 (3) C_{2-8} alkenyl optionally substituted with CO_2R^a ;

(4) halogen,

(5) OCF_3 ,

(6) cyano,

(7) nitro,

15 (8) NR^bR^c ,

(9) $\text{NR}^b\text{C}(\text{O})\text{R}^a$,

(10) $\text{NR}^b\text{CO}_2\text{R}^{a'}$, wherein $\text{R}^{a'}$ is a non-hydrogen group selected from R^a ,

(11) CO_2R^a ,

20 (12) COR^a ,

(13) $\text{C}(\text{O})\text{NR}^b\text{R}^c$,

(14) $\text{C}(\text{O})\text{NHR}^a$,

(15) OR^a ,

(16) $\text{OC}(\text{O})\text{R}^a$,

25 (17) $\text{S}(\text{O})_n\text{R}^{a'}$, wherein $\text{R}^{a'}$ is a non-hydrogen group selected from R^a ,

(18) SO_2NHR^c ,

(19) NHSO_2R^d ,

(20) $\text{C}(=\text{NOR}^a)\text{NR}^b\text{R}^c$,

30 (21) $\text{C}(=\text{NOR}^a)\text{R}^a$, and

(22) substituted or unsubstituted heterocycle where the heterocycle is selected from oxadiazole, tetrazole, triazole, pyrazole, oxazole, isoxazole, thiazole, 4,5-dihydro-oxazole, 4,5-dihydro-1,2,4-oxadiazol-5-one, and wherein said substituent

is 1 to 3 groups independently selected from C₁₋₄alkyl optionally substituted with 1 to 5 halogen atoms, OR^a, or OC(O)R^a;

R_{6b} and R_{6c} are independently selected from

- (1) hydrogen, and
- (2) a group from R_{6a}; with the proviso that not more than one of R_{6a}, R_{6b}, and R_{6c} is a heterocycle;

R₇ is selected from

- (1) hydrogen,
- (2) cyano,
- (3) nitro,
- (4) halogen,
- (5) OR^a,
- (6) CO₂R^a,
- (7) CONR^bR^c, and
- (8) C₁₋₄ alkyl;

R^a is selected from

- (1) hydrogen,
- (2) C₁₋₄ alkyl,
- (3) C₃₋₆ cycloalkyl,
- (4) aryl, and
- (5) aryl-C₁₋₄ alkyl;

R^b and R^c are independently selected from

- (1) hydrogen,
- (2) C₁₋₄ alkyl optionally substituted with OR^a,
- (3) C₃₋₆ cycloalkyl,
- (4) aryl, and
- (5) aryl-C₁₋₄ alkyl; or

R^b and R^c together with the nitrogen atom to which they are attached form a 5- or 6-membered ring optionally containing a heteroatom selected from NR^a, O and S;

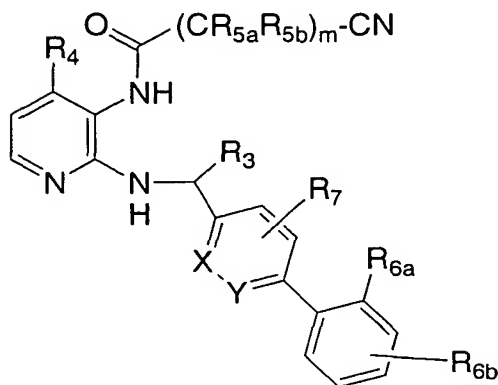
R^d is selected from

- (1) C₁₋₄ alkyl, optionally substituted with 1 to 3 halogen atoms,
- (2) aryl,
- (3) aryl-C₁₋₄ alkyl; and
- (4) NR^bR^c;

n is 0, 1 or 2, or
a pharmaceutically acceptable salt thereof.

2. A compound of Claim 1 wherein R₁ and R₂ are each hydrogen.
3. A compound of Claim 1 wherein R₃ is hydrogen.
4. A compound of Claim 1 wherein R₃ is C₁₋₄ alkyl.
5. A compound of Claim 1 wherein R₄ is H or a 4-substituent selected from C₁₋₄ alkyl, halogen, NR^bR^c, (CH₂)_nOR^a, (CH₂)_nCN, (CH₂)_nCO₂R^a.
6. A compound of Claim 1 wherein R₄ is H, 4-chloro or 4-methyl.
7. A compound of Claim 1 wherein (CR_{5a}R_{5b})_m is selected from -CH₂-, -CH(CH₃)-, -CH₂-CH₂-, >C(CH₂-CH₂), -C(CH₃)₂-.
8. A compound of Claim 1 wherein (CR_{5a}R_{5b})_m is -CH₂-.
9. A compound of Claim 1 wherein X and Y are both CH.
10. A compound of Claim 1 wherein R_{6a} is a 2- (or ortho-) substituent.
11. A compound of Claim 10 wherein R_{6a} is selected from CO₂R^a, CONR^bR^c, C₁₋₈ alkyl substituted with 1 to 5 halogen atoms, cyano, SO₂NHR^c, halogen, trifluoromethoxy, 2-methyltetrazol-5-yl, 3-methyl-1,2,4-oxadiazolyl, 5-methyl-1,2,4-oxadiazolyl, 5-ethyl-1,2,4-oxadiazolyl, 5-methyl-1,2,4-triazol-3-yl, and 3-methyl-1,2,4-triazol-5-yl.
12. A compound of Claim 10 wherein R_{6b} is selected from hydrogen, C₁₋₈ alkyl optionally substituted with OH or 1 to 5 halogen atoms, C₂₋₆ alkenyl, NR^bR^c, OR^a, COR^a, CO₂R^a, NHCOR^a, NHSO₂R^d and halogen, and R_{6c} is hydrogen.

13. A compound of Claim 1 having the formula Ia:



Ia

- 5 wherein R_3 , R_4 , R_{5a} , R_{5b} , R_{6a} , R_{6b} , R_7 , m , X and Y are as defined in Claim 1.

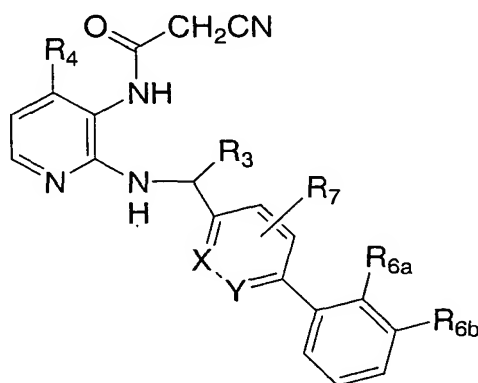
14. A compound of Claim 13 wherein at least one of R_3 , R_4 and R_{6b} are non-hydrogen.
- 10 15. A compound of Claim 14 wherein R_4 is C_{1-4} alkyl or halogen.
16. A compound of Claim 14 wherein R_3 is C_{1-4} alkyl.
17. A compound of Claim 14 wherein R_{6b} is C_{1-4} alkyl or
- 15 halogen.
18. A compound of Claim 17 wherein R_{6b} is a 3-, 5- or 6-substituent.
- 20 19. A compound of Claim 14 wherein R_3 is C_{1-4} alkyl and R_{6b} is C_{1-4} alkyl or halogen.
20. A compound of Claim 14 wherein R_4 is C_{1-4} alkyl or halogen and R_{6b} is C_{1-4} alkyl or halogen.

25

21. A compound of Claim 14 wherein R₃ is C₁₋₄ alkyl and R₄ is C₁₋₄ alkyl or halogen.

22. A compound of Claim 14 wherein R₃ is C₁₋₄ alkyl, R₄ is C₁₋₄ alkyl or halogen, and R_{6b} is C₁₋₄ alkyl or halogen.

23. A compound of Claim 14 having the formula Ib:



Ib

wherein

R₃ is hydrogen or C₁₋₄ alkyl;

R₄ is hydrogen, C₁₋₄ alkyl, halogen, NR^bR^c, (CH₂)_nOR^a, (CH₂)_nCN, or (CH₂)_nCO₂R^a;

R_{6a} is selected from CO₂R^a, CONR^bR^c, C₁₋₈ alkyl substituted with 1 to 5 halogen atoms, cyano, SO₂NHR^c, halogen, trifluoromethoxy, 2-methyltetrazol-5-yl, 3-methyl-1,2,4-oxadiazolyl, 5-methyl-1,2,4-oxadiazolyl, 5-ethyl-1,2,4-oxadiazolyl, 5-methyl-1,2,4-triazol-3-yl, and 3-methyl-1,2,4-triazol-5-yl;

R_{6b} is hydrogen or halogen;

X and Y are each CH and R₇ is hydrogen, halogen or C₁₋₄ alkyl; or one of X and Y is CH and the other is N, and R₇ is hydrogen.

24. A compound of Claim 23 wherein R₄ is H, methyl or chloro.

25. A compound of Claim 23 wherein R₃ is H or methyl.

26. A compound of Claim 23 wherein R_{6b} is H, chloro or fluoro.

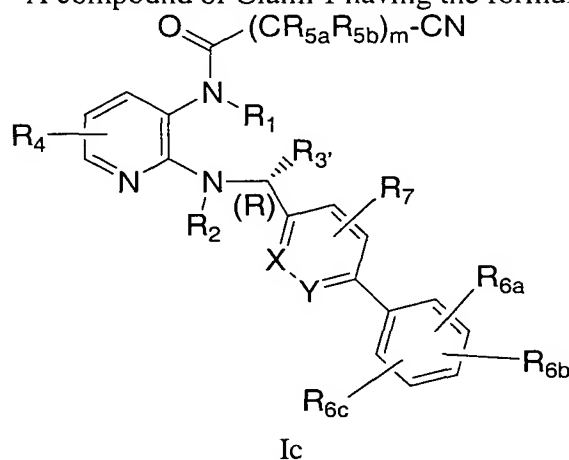
27. A compound of Claim 23 wherein R_{6a} is CO_2R^a , $CONR^bR^c$, cyano, halogen, trifluoromethyl, difluoromethyl, SO_2NHR^c , 2-methyltetrazol-5-yl, 3-methyl-1,2,4-oxadiazolyl or 5-methyl-1,2,4-oxadiazolyl.

5

28. A compound of Claim 23 wherein R_4 is H, methyl or chloro; R_3 is H or methyl; R_{6b} is H, chloro or fluoro; and R_{6a} is CO_2R^a , $CONR^bR^c$, cyano, halogen, trifluoromethyl, difluoromethyl, SO_2NHR^c , 2-methyltetrazol-5-yl, 3-methyl-1,2,4-oxadiazolyl or 5-methyl-1,2,4-oxadiazolyl.

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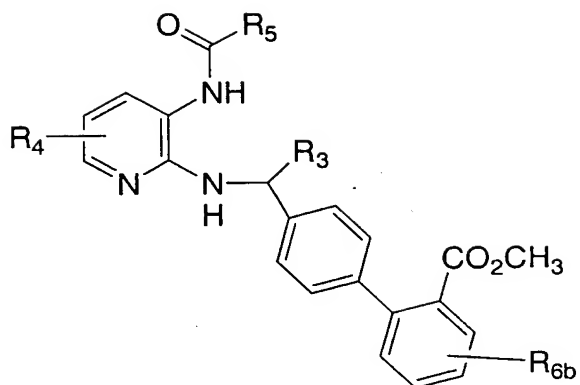
29. A compound of Claim 1 having the formula Ic:



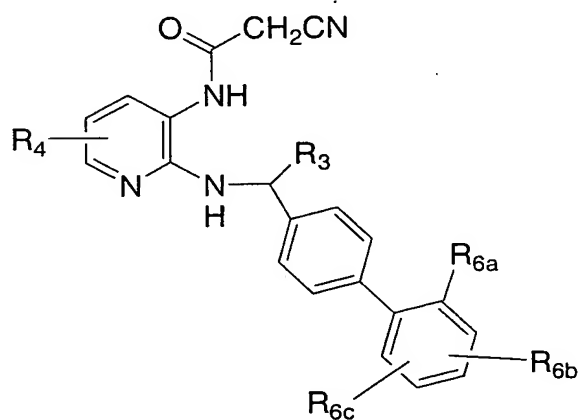
15 wherein all the variables are as defined in Claim 1, except $R_{3'}$ is C_{1-4} alkyl optionally substituted with 1 to 4 groups selected from halogen, CO_2R^a , OR^a , COR^a and cyano.

30. A compound of Claim 1 selected from:

20



R6b	R3	R4	R5
5-Me	Me (<i>R</i>)	4-Me	1-(1-CN-cyclopropyl)
H	H	H	1-(1-CN-cyclopropyl)
H	H	H	C(CH ₃) ₂ CN
H	H	H	CH ₂ CH ₂ CN
H	H	H	CH(CH ₃)CN



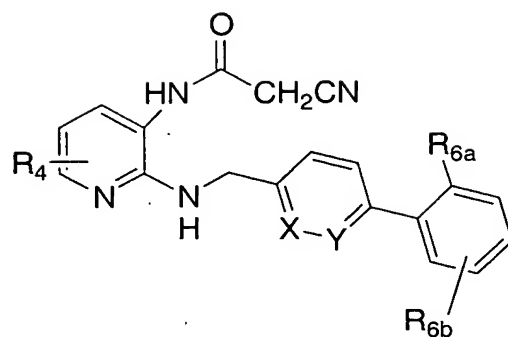
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R6a	R6b/R6c	R3	R4
CO ₂ Me	3-F	Me (<i>R</i>)	4-Cl
CO ₂ Me	3-F	Me (<i>R</i>)	4-Me
CO ₂ Me	6-Me	Me (<i>R</i>)	4-Cl
2-Me-2H-tetrazol-5-yl	3-F	Me (<i>R</i>)	4-Cl
3-Me-1,2,4-oxadiazole	3-F	Me (<i>R</i>)	4-Cl
CO ₂ Me	3-Cl	Me (<i>R</i>)	4-Me

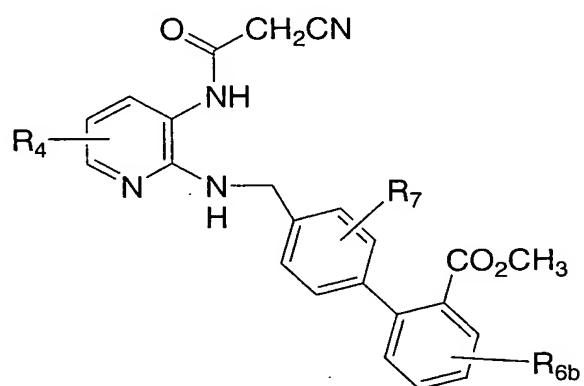
R6a	R6b/R6c	R3	R4
CO ₂ Me	3-F	H	4-Me
CO ₂ Me	3-F	Me (R)	H
CO ₂ Me	3-Cl	H	4-Me
5-Me-1,2,4-oxadiazole	3-F	Me (R)	4-Cl
CO ₂ Me	3-Cl	Me (R)	4-Cl
3-Me-1,2,4-oxadiazole	3-F	H	4-Me
CO ₂ Me	5-Me	Me (R)	4-Cl
CO ₂ Me	5-Cl	Me (R)	4-Cl
CONHMe	3-F	Me (R)	4-Cl
CO ₂ Me	6-Me	Me (R)	4-Me
2-Me-tetrazol-5-yl	3-F	Me (R)	4-Me
CO ₂ Me	3-Cl	Me (R)	H
CO ₂ Me	3-Cl	H	4-Cl
CF ₃	3-F	Me (R)	4-Cl
CF ₃	3-F	Me (R)	4-Me
CO ₂ Me	5-Me	Me (R)	4-Me
5-Me-1,2,4-oxadiazole	H	Me (R)	4-Cl
3-Me-1,2,4-oxadiazole	5-F	Me (R)	4-Cl
CHF ₂	3-Cl	H	4-Me
CO ₂ Me	5-F	Me (R)	4-Cl
CONH ₂	3-Cl	H	4-Me
CF ₃	3-F	H	4-Me
5-Me-1,2,4-oxadiazole	5-Me	Me (R)	4-Me
5-Me-1,2,4-oxadiazole	H	Me (R)	4-Me
CN	3-F	H	4-Cl
3-Me-1,2,4-oxadiazole	H	Me (R)	4-Me
CF ₃	3-F	Me (R)	H
5-Me-1,2,4-oxadiazole	5-Me	H	4-Me
Cl	3-F	Me (R)	4-Me
CO ₂ Me	H	Me (R)	4-Me
CO ₂ Me	H	Me (R)	4-Cl
CO ₂ Me	6-Cl	Me (R)	4-Cl

R6a	R6b/R6c	R3	R4
CO ₂ Me	6-F	Me (R)	4-Cl
CN	3-Cl	Me (R)	4-Cl
SO ₂ NHMe	H	Me (R)	4-Me
5-Me-1,2,4-oxadiazole	H	Me	4-Me
3-Me-1,2,4-oxadiazole	5-Cl	Me (R)	4-Cl
3-Me-1,2,4-oxadiazole	5-Me	H	4-Me
3-Me-1,2,4-oxadiazole	H	H	4-Me
3-Me-1,2,4-oxadiazole	H	H	4-Me
CO ₂ Me	6-Me	H	H
Cl	3-Cl	Me (R)	4-Me
SO ₂ NHMe	H	Me (R)	4-Me
3-Me-1,2,4-oxadiazole	H	H	H
CF ₃	H	Me (R)	4-Cl
Cl	3-F	Me (R)	4-Cl
CF ₃	H	Me (R)	4-Me
CO ₂ Me	H	CH ₂ OH	4-Me
1-Me-1H-tetrazol-5-yl	3-F	Me (R)	4-Cl
3-Me-1,2,4-oxadiazole	H	H	4-Cl
CO ₂ Me	H	H	4-CH ₂ CN
Cl	3-Br/5-F		4-Me
CO ₂ Me	H	H	4-Cl
OCF ₃	H	Me (R)	4-Me
Cl	3-F	H	4-Me
CHF ₂	H	H	4-Me
CF ₃	H	H	4-Me
CO ₂ Me	H	H	4-Me
CO ₂ Me	H	H	H
CF ₃	H	H	4-Me
3-Me-1,2,4-oxadiazole	6-Me	Me (R)	4-Me
Br	H	Me (R)	4-Me
CONHMe	H	H	4-Me
CN	H	Me (R)	4-Me

R _{6a}	R _{6b} /R _{6c}	R ₃	R ₄
SO ₂ NHMe	H	H	4-Me
CO ₂ Me	3-Me	H	4-Me
Cl	3-F	Me (<i>R</i>)	H
F	3-F	Me (<i>R</i>)	4-Me
CO ₂ Me	H	H	4-Br
CO ₂ Me	H	Et	4-Me
CO ₂ Me	H	H	5-F
CF ₃	H	Me	H
CO ₂ Me	6-vinyl	H	4-Me
CO ₂ Me	H	H	4-(CH ₂) ₂ OH
CO ₂ Me	6-NHMe	H	4-Me
CO ₂ Me	6-CH ₂ OH	H	4-Me
Cl	5-Cl	Me (<i>R</i>)	4-Me
Cl	6-Me	Me (<i>R</i>)	4-Me
CO ₂ Me	6-N(Me) ₂	H	4-Me
CO ₂ Me	H	H	4-CH ₂ CO ₂ Me
3-Me-1,2,4-oxadiazole	6-Me	H	4-Me
CO ₂ Me	6-Et	H	4-Me
CO ₂ Me	6-OMe	H	4-Me
5-Me-1,2,4-triazol-3-yl	H	H	H
5-Et-1,2,4-oxadiazole	H	H	H
CO ₂ Me	6-CO ₂ Me	H	4-Me
SO ₂ NHMe	H	Me (<i>S</i>)	4-Me
CO ₂ Me	6-CHO	H	4-Me
CF ₃	6-CF ₃	Me (<i>R</i>)	4-Me
3-Me-1,2,4-oxadiazole	H	Me (<i>S</i>)	4-Me
1-Me-1H-1,2,4-triazol-3-yl	H	H	H
F	4-F	Me (<i>R</i>)	4-Me
CO ₂ Me	H	H	4-CH ₂ CO ₂ tBu
CO ₂ Me	6-NHCOMe	H	4-Me
CO ₂ Me	6-NHSO ₂ Me	H	4-Me



R _{6a}	R _{6b}	R ₄	X	Y
CO ₂ Me	H	4-Me	N	CH
CF ₃	H	H	CH	N
CO ₂ Me	H	H	N	CH
CO ₂ Me	H	4-Me	CH	N
CO ₂ Me	3-F	4-Me	N	CH
CO ₂ Me	3-F	4-Me	CH	N



5

R _{6b}	R ₄	R ₇
3-F	4-Me	2'-F
H	H	2'-Me
3-F	4-Me	3'-F
H	H	3'-Me

31. A pharmaceutical composition comprising a compound according to Claim 1 or a pharmaceutically acceptable salt thereof; and a pharmaceutically acceptable carrier.

5 32. A method of treatment or prevention of pain and inflammation comprising a step of administering, to a subject in need of such treatment or prevention, an effective amount of a compound according to Claim 1 or a pharmaceutically acceptable salt thereof.

10 33. A method of treatment of osteoarthritis, repetitive motion pain, dental pain, cancer pain, myofascial pain, muscular injury pain, fibromyalgia pain, perioperative pain comprising a step of administering, to a subject in need of such treatment, an effective amount of a compound according to Claim 1 or a pharmaceutically acceptable salt thereof.

15 34. A method of treatment or prevention of inflammatory pain caused by chronic obstructive pulmonary disease, asthma, inflammatory bowel disease, rhinitis, pancreatitis, cystitis (interstitial cystitis), uveitis, inflammatory skin disorders, rheumatoid arthritis, edema resulting from trauma associated with burns, sprains or
20 fracture, postsurgical intervention, osteoarthritis, rheumatic disease, teno-synovitis, or gout comprising a step of administering, to a subject in need of such treatment or prevention, an effective amount of a compound according to Claim 1 or a pharmaceutically acceptable salt thereof.

25 35. A method of treatment or prevention of pain associated with angina, menstruation or cancer comprising a step of administering, to a subject in need of such treatment or prevention, an effective amount of a compound according to Claim 1 or a pharmaceutically acceptable salt thereof.

30 36. A method of treatment of diabetic vasculopathy, post capillary resistance, diabetic symptoms associated with insulinitis, psoriasis, eczema, spasms of the gastrointestinal tract or uterus, Crohn's disease, ulcerative colitis, or pancreatitis comprising a step of administering, to a subject in need of such treatment, an effective amount of a compound according to Claim 1 or a pharmaceutically acceptable salt
35 thereof.

37. A method of treatment or prevention of pain caused by pneumoconiosis, including aluminosis, anthracosis, asbestosis, chalicosis, ptilosis, siderosis, silicosis, tabacosis, byssinosis, adult respiratory distress syndrome,
5 bronchitis, allergic rhinitis, vasomotor rhinitis, liver disease, multiple sclerosis, atherosclerosis, Alzheimer's disease, septic shock, cerebral edema, headache, migraine, closed head trauma, irritable bowel syndrome, or nephritis comprising a step of administering, to a subject in need of such treatment or prevention of pain, an effective amount of a compound according to Claim 1 or a pharmaceutically
10 acceptable salt thereof.